

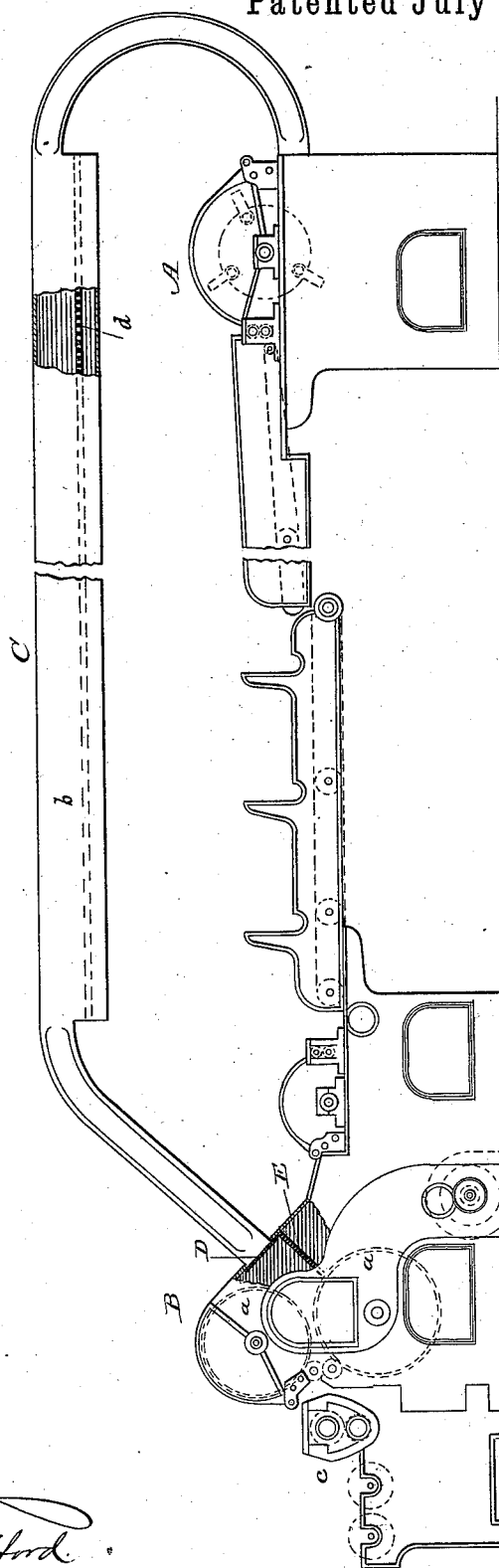
(No Model.)

A. T. ATHERTON.

COMBINED COTTON OPENER AND LAPPER.

No. 301,848.

Patented July 15, 1884.



Witnesses.

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UNITED STATES PATENT OFFICE.

ABEL T. ATHERTON, OF LOWELL, MASSACHUSETTS.

COMBINED COTTON OPENER AND LAPPER.

SPECIFICATION forming part of Letters Patent No. 301,848, dated July 15, 1884.

Application filed September 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, ABEL T. ATHERTON, of Lowell, in the State of Massachusetts, have invented certain new and useful Improvements in Combined Cotton Openers and Lappers, of which the following is a specification.

It is my object to so combine a cotton opener and a lapper that both the breaker and the finisher laps can be conveniently and readily made by the same machine. The novel combination which I have devised for this purpose permits me to employ an evener to even the laps and means—such as grids—for cleaning the cotton as it passes from the opener to the lapper.

My invention is mainly characterized by the combination, with an opener and a lapper of any known or suitable construction, of a trunk leading from the opener to the case which incloses the lap-forming cylinders or cages of the lapper, and doors, one of which closes communication between the lapper-case and the trunk, and the other closes communication between the lap-forming cylinder and the passage leading to the feed mechanism of the lapper. When one of these doors is open the other is closed, and by means of them the cotton from the opener can first be run through the lapper and made into a breaker-lap, and this breaker-lap can be subsequently passed through the same lapper and made into a finisher-lap with entire readiness and ease.

The nature of my invention and the manner in which the same is or may be carried into effect will be readily understood by reference to the accompanying drawing, in which is represented in side elevation, partly in section, a lapper and opener combined in accordance with my invention.

A is a cotton-opener of known or suitable construction—for instance, of the Whitehead & Atherton type, such as illustrated in Letters Patent No. 159,487, dated February 2, 1875. B is a lapper of known or suitable construction—such, for instance, as manufactured and sold by the Whitehead & Atherton Machine Company, of the type illustrated in Letters Patent No. 208,353, dated September 24, 1878.

These machines are well known, and I therefore deem it unnecessary to represent in de-

tail their working parts or their gearing or driving mechanism. With each machine A B, or with the lapper B alone, if desired, there may be combined, in the usual way, an evener of the well-known Whitehead & Atherton type or any other known type.

The feed and evener mechanism of the lapper, together with their actuating devices, are so arranged that the feed can be thrown into or out of action without stopping the lap-forming cylinders. These features, however, form in themselves no part of my invention, and, being all well known and understood by those skilled in the art to which my invention relates, do not require further description.

My invention resides, essentially, in the combination, with the lapper and the opener, of the trunk C and the doors or gates D E. The trunk C leads from the discharge end of the opener to the case of the lapper, into which it opens at a point where the cotton which passes from it will be delivered to the lap-forming cylinders of the lapper, (shown by dotted lines at *a a*.) Communication between the trunk and the interior of the lapper is controlled by door or gate D, hinged or otherwise held in place in the case, so that it can be moved to either open or close the communicating opening, as desired. At E is another door, which is arranged in a similar manner to open or close, as desired, the passage leading from the feed mechanism of the lapper to the lap-forming cylinders *a*.

The mode of operation is as follows: The door E is closed and the door D is opened, and the opener A and lapper B (excepting the feed and evening mechanism of the latter) are set in motion. The cotton is fed loosely into the opener, where it is acted on in the usual way, and passes out therefrom to the trunk C, through which it travels along until it reaches and enters the lapper through the passage left open by door D. The cotton in the loose condition to which it is brought by the opener is readily carried through the trunk by the combined action of the opener, whose rotary-beater acts as a blower, and of the lapper, whose rotating lap-forming cages, with suction mechanism connected therewith, act as an exhaust. In the enlarged part of the trunk (indicated at *b*) I prefer to place grids, over which the

loose cotton passes as it travels along through the trunk. In the drawing part of the trunk is broken away to disclose these grids, which are shown in cross-section at *d*. Particles of dirt and other refuse carried with the cotton into the trunk drop down through these grids and collect on the bottom of the trunk, whence they can be removed through any suitable opening or door provided for the purpose.

10 The cotton, entering the lapper through the open door D, passes to the cages or cylinders *a*, and thence to the lap-head *c*, where it is wound up into a lap in the usual way. The lap thus made is a breaker-lap. After the

15 breaker-laps are made by the foregoing operation, the opener A is stopped, the door D is closed, thus shutting off communication between the lapper and the trunk C. The door E is opened, and the entire lapper (including

20 feed and evening mechanism) is started. The breaker-laps are then passed through the lapper in the usual way, and are made up into finisher-laps for the cards. In this way it will be seen that I am enabled to use but one machine for making both breaker and finisher

25 laps, and at the same time to retain an evener to even the laps, and a trunk with grids to clean the cotton, thus retaining all the advantageous features of the most improved combined lappers and openers, while using but

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one lapper for making both breaker and finisher laps.

Having described my improvements and the best way now known to me of carrying the same into practical effect, what I claim as new and of my invention is—

1. The combination, with the cotton-opener and the lapper, of a communicating trunk leading from the discharge-end of the opener into the case of the lapper at a point where the loose cotton discharged from it will pass to the lap-forming cylinders or cages, and doors or gates, the one for controlling communication between the trunk and the lapper, and the other for opening and closing the passage in the lapper through which the cotton supplied by the lapper feed mechanism passes to the said lap-forming cylinders or cages, substantially as and for the purposes hereinbefore set forth.

2. The trunk C, provided with grids, in combination with opener A, lapper B, and doors D E, under the arrangement and for operation substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 25th day of August, 1883.

ABEL T. ATHERTON.

Witnesses:

FRANK COBURN,
L. H. BONNER.